

# MULTI-KEY HOLDER WITH INDIVIDUAL DOCKING PORTS

## BACKGROUND OF THE INVENTION

### **Field of the Invention**

This invention pertains to the field of key holders. More particularly, the invention  
5 pertains to a container for holding a plurality of keys where the keys have docking ports  
so that they are easily removed from and replaced in the holder without having to deal  
with keys at other docking ports.

### **Description of the Prior Art.**

We live in an era where distrust is rampant and, as a result, we often place our  
10 assets under lock and key. We lock our cars, our houses, our offices, and our mail boxes.  
In locking so many things, we have amassed an inventory of keys that we must carry with  
us nearly at all times. The weight of these keys is becoming burdensome; however, the  
most annoying problem is that selecting one key out of the inventory brings with it the  
noise of all the keys jangling together, the confusion of which key is used for which lock,  
15 and the problem of separating one key from all the rest.

To this end, the key industry has developed some key holders that contain a  
plurality of keys in a case or grip to be carried on one's person, such as in a pocket book  
or a coat pocket. Usually the key holder merely clumps the keys together so that  
selecting one specific key and separating it from the rest remains an annoying problem.

20 Some key holders allow the keys to be kept in twos and threes and anchored in a

central housing for transportation, to be pulled from the inventory when necessary for use. Most of these key holders are made of metal and merely increase the noise of jangling them together. Often the metal holders become difficult to separate due to dirt, dust and oil from a person's skin that gets on the keys and makes them slippery to handle.

5 Other times, the heat of the day or the cold of the night gives the keys a temperature far from one's body temperature so that the keys become uncomfortably hot or cold and reduce their ability to be adroitly handled. In addition, loose or clumped keys frequently rip pocket material and poke holes in the lining of purses.

Even more of a problem is the fact that the finish on many keys is smooth, sleek, and highly polished making them very attractive. However, such a finish makes the surfaces slippery and hard to hold thus making the chore of picking out one key from a group of keys an onerous task.

10 What is needed is a key inventory chest where each key is removeably attached thereto in such a manner that the keys do not jangle together, remain apart while in the chest, are easily identifiable because of their separation from each other, and are easily handled or carried by a tag or other device, attached thereto, allowing a better grip on the key than in the case where handling of the keys is confined to touching the finish on the key itself.

## SUMMARY OF THE INVENTION

15 The invention is a key inventory chest that includes a case of modern design

having a series of docking ports formed therein and including a carrying element to fix  
the inventory chest at various locations, such as on a person's belt or on a wall. A tag is  
provided for each key to be located in the case. Each tag includes a slot or opening for  
holding a wire wound spring to attach to the blunt end of the key head. Each tag further  
5 includes a docking button, spaced-apart from the opening that is of a size and shape, such  
as a circular, button-like element, spring-loaded to the tag, for insertion in the docking  
port and temporarily lockable therein to temporarily fasten the key in the case. The  
docking button is arranged for slipping into the locking port and snap-fitting therein. It is  
releasable from the docking port by applying digital or finger pressure downward on the  
10 button to allow the tag to slip out of the docking port.

The principal object of this invention is a key inventory chest that carries keys  
in a case and separates them to the extent that they can be individually located and  
handled separately and not in a group. Another object of this invention is a key inventory  
chest that may carry a plurality of keys that may be stored on a carrying means but may  
15 be separated from other keys stored on the same inventory chest. Other objects of the  
invention include a means for allowing a key and/or keys to be handled through a tag that  
is fixed to each key; a means of allowing a key and/or keys to be temporarily removed  
from the case and used and then relocated on the case in the same location from where it  
originally came; a means of being able to identify each and every key in a case of keys  
20 without having to paw through a quantity of them where they, and anything attached to

them, become entangled; and a means of storing keys in a location where they do not bump together and produce irritating noise.

These and other objects of the invention will become more apparent when reading the description of the preferred embodiment along with the drawings that are appended hereto. The protection sought by the inventor may be gleaned from a fair reading of the claims that conclude the specification.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a front elevational view of one embodiment of the invention wherein two, elongated cases are joined together in end-to-end fashion;

Figure 2 is a front elevational view of one of the elongated cases shown in Figure 1 containing two tags;

Figure 3 is a front elevational view of a typical tag used in this invention;

Figure 4 is a front elevational view of one of the elongated cases shown in Figure 1 without any tags therein;

Figure 5 is a side elevational view of the case shown in Figure 4;

Figure 6 is an illustrative view of a triangular case holding two keys on separate tags, connected to a belt clip;

Figure 7 is an illustrative view of an elongated case holding three tags, connected to a belt clip;

Figure 8 is a front elevational view of a wall mounting with a portion broken away

to show an aperture in the rear wall for mounting the device against a wall;

Figure 9 is a front elevational view of a circular case having docking ports for three tags equiangularly arranged about the face thereof;

Figure 10 is a front elevational view of the circular case shown in Figure 9 with the  
5 tags inserted in the docking ports;

Figure 11a is a front elevational view of keys attached to a tag through a sleeved opening with a plastic locking ring;

Figure 11b is a side elevational view of keys and tag shown in Figure 11a;

Figure 12a is a front elevational view of keys attached to a tag through a spring  
10 clip;

Figure 12b is a side elevational view of the keys and tag shown in Figure 12a;

Figure 13 is a front elevational view of a tag having a slot cut in the end thereof for attaching a key thereto without the need of a second means;

Figure 14 is a side view, partly in section, of a fragment of a typical tag end  
15 showing how the docking button is held at an angle for insertion and docking in the docking port;

Figure 15 is a front elevation view of a tag containing extra, second, means to join more than one key to the tag;

Figure 16 is a front elevation view of another embodiment of a triangular case  
20 having two docking ports for keys and one docking port for attachment to another case or

to a chest;

Figure 17 is a perspective view of another embodiment of the case of this invention;

5      Figure 18 is a perspective view of the embodiment shown in Figure 17 adapted for attachment to a wall plaque;

Figure 19 is a front elevation view of two cases arranged in parallel order, one spaced above the other; and,

Figure 20 is a perspective view of the two cases shown in Figure 19, adapted for attachment to a wall plaque.

10     Figure 21 is a front elevation view of a single port docking station adapted for separation of separate keys.

Figure 22 is a front elevation view of a single docking station in the locked position.

15     Figure 23 is a front elevation view of the single docking station in the locked position adapted to rotate in the locked position.

Figure 24 is a front elevation view of a multiple key holder with individual docking ports having labels.

#### **DESCRIPTION OF THE PREFERRED EMBODIMENT**

Turning now to the drawings, wherein elements are identified with numbers and  
20 like elements are identified by like numbers throughout the 22 drawings, Figure 1-5

show, in full assembly and in subassembly, a key inventory chest 1 of this invention.

Chest 1 includes a case 3, preferably made of plastic and more preferable made by injection-molding processes, including a front half 5 and rear half 7. Case 3 has a front surface 9 and a rear surface 13, each of which may be sculptured to provide a pleasing look to the product. It is preferred that case 3 be made flat or in a low profile to allow it to be worn inside or outside of one's clothing, held conveniently in one's hand, or mounted on a vertical wall, without extending too far outward therefrom.

Case 3 has an outer border or outline 15 that may range from triangular (Figure 6) to circular (Figures 7a and 7b) to elongated (Figure 4). At least one docking port 17 is formed in case 3 and, as shown in Figures 3 and 4, is preferably in the form of a circular aperture 19 passing through case front half 5 from front surface 9. The size or circumference of docking port 17 may vary. A slot 21 is formed in case 3 leading into docking port 17. A first means 23 is shown in Figures 6 and 7 for attaching chest 1 to a carrying element. As shown in Figures 6 and 7, means 23 includes a tab 25 connecting case 3 to a belt clip 27 that rides on a belt 29 of the wearer. As shown in Figure 8, means 23 is a frontal lip 31 formed as part of a wall mounting 33.

Wall mounting 33 is shown in Figure 8 to comprise an elongated flat plate 35 having at least one, but preferably a plurality of, mounting holes 37 formed therethrough and includes a transition element 39 for holding frontal lip 31 outwardly and downwardly in front of plate 35. A plurality of docking ports 17 are shown formed in frontal lip 31 for

receipt of keys as will hereinafter be more fully explained. Belt clip 27 is shown in Figures 6 and 7 to include a loop 41 of plastic or other material through which belt 29 is threaded and where first means 23, made in the form of an appendage 43, extends outwardly and downwardly from loop 41.

5       A tag 47, or a plurality of them, are provided. One is shown in Figures 3 and 9, separate from case 3, and likewise is preferably made from plastic. Tags 47 are preferably elongated and defined by spaced-apart tag ends 49a and 49b respectively. A second means 51 is provided in tag 47, preferably in the form of the combination of a small aperture 53 through which a wound metal locking ring 55 is threaded or passed for 10 attaching to the standard aperture 59 of any of a group of keys 61. As used herein and shown in Figure 1, key 61 and/or keys 61 are considered to be made up of an elongated toothed or lock-insertable portion 63 and a finger-graspable portion 65, formed at one end thereof. Aperture 59 is located in finger-graspable portion 65. Other means 51 are usable herein such as a sleeved opening 67 and a plastic locking ring 71 (Figures 11a and 11b) or 15 a spring clip 73 (Figures 12a and 12b), and an opening in the form of a narrow slot 75, formed in tag end 49b (Figure 13) that allows direct insertion of the finger-graspable portion 65 of key 61 therethrough (not shown) so that key aperture 59 is captured by tag end 49b without the need for ring 55.

A docking button 77 is provided, preferably circular in outline, spaced apart from 20 tag second means 51, and is adapted for entrance into case 3, through slot 21, and then

into lockable engagement in docking port 17 to temporarily attach key and/or a plurality of keys 61 to case 3 and chest 1. Docking button 77 is preferably of similar size and shape as docking port 17, and is connected to tag 47 by a narrow arm 79 extending inward from tag 47 and connected between tag 47 and button 77. In addition, docking button 77 is formed with an upper surface 75 that resides above the plane X-Y of wall 85 of slot 21 (Figure 5) that is located nearest front case half 3. In this configuration, button 77 is biased, by arm 79, upward, toward the front of case 3, and this bias holds tag 47 in case 3. The circular shape of both button 77 and docking port 17 allows button 77 to rotate in port 17 without losing the inter-connection therebetween. When inserted through slot 21 into full receipt in docking port 17, the upper surface 83 of button 77 “snaps” slightly outward indicating a temporarily locked condition in case 3. To this end and as shown in Figure 14, button upper surface 83 is preferably curved, with the highest point 87 at the center of the button, and a ridge 89, albeit lower than the highest center point, is formed on button 77, to coincide with the circumference of button 77, to facilitate insertion of button 77 into slot 21 and to facilitate this “snapping” feature. Ridge 89 also aids in holding button 77 in docking port 17. To release key and/or keys 61, one merely applies finger or digital pressure on surface 83 of button 77, to lower ridge 89 below plane X-X, to slide tag 47 out of slot 21.

As shown in Figures 15, 16, 9, and 10, chest 1 may contain only a single docking port, two docking ports, three docking ports or four docking ports 17. Even more may be

added. In these and all cases, docking ports 17 and slots 21 lie in a plane located between case front half 5 and case rear half 7. Docking button 77, even though biased upward by arm 79, is adapted to be inserted into slot 21 and reside in a plane likewise located between case front half 5 and case rear half 7. Docking buttons 77, even though biased upward by arms 79, are adapted to be inserted into slots 21 and reside in planes likewise located between case front half 5 and case rear half 7.

As shown in Figure 1, more than one case 3 may be joined together. As shown, first and second elongated cases 91a and 91b, respectively, are provided, each having three docking ports, 95a, 95b and 95c, arranged in a straight line, and a docking port 17 at one end thereof. Cases 91a and 91b may be joined together, in end-to-end or “daisy chain” fashion by inserting the end docking button 77 of case 91b into the end docking port 95c of case 91a. Thereafter, slots 21 can be formed to enter cases 91a and 91b along alternate elongated sides 97a and 97b of the cases. This arrangement allows for the greatest density of keys to be mounted in chest 1 yet gives the keys the maximum separation from their neighboring key. In a single case, such as in elongated case 91a, docking button entrance slot 17 can be formed either along one side or alternated along both sides without departing from the spirit and scope of this invention.

Figure 15 shows another embodiment of the invention wherein a side loop 99 is formed on case 3, and contains second means 51, in the form of small aperture 53 and wound metal ring 55, for holding keys 61 thereto.

As shown in Figure 16, case 3 may contain a plurality of docking ports 17 formed therein, in spaced-apart arrangement, and including first means 23 for removeably attaching case 3 to a carrying element 25 (not shown). In this embodiment, a plurality of tags 47 are usable, each tag including second means 51, such as wire wound metal rings 55, for loosely attaching tag 47 to key 61. Each tag 47 includes a circular docking button 77 so that the keys are held in spaced-apart arrangement over the length and breadth of case 3. The docking ports on the rack may be used to identify and store individual keys 61 on each button. However, a plurality of keys 61 may be stored on the same button 77 attachment.

Docking buttons 77 can be sculptured to have a variety of outer surfaces. Shown in the drawings (Figure 16) are a series of parallel, spaced-apart troughs 101 formed in the button surface to accentuate the sleek, ergonomic design of the invention.

Figure 17 is another embodiment of case 3 where it is elongated and attached to a wall plaque 103 that may be attached to any vertical surface. In this embodiment, 15 docking ports 17 are arranged in side-by-side order. Also in this embodiment, a rectangular depression 107 is formed adjacent to, and preferably above, each docking port 17 for the purpose of accepting a label (not shown) or other indicia of the purpose of the key hung thereon.

Figure 18 shows the embodiment of Figure 17 disassembled into elongated case 3 and separate wall plaque 103. These components are joined together by a plurality of

pegs 109 extending outwardly from the front of plaque 103 for receipt in holes (not shown) formed in the rear of case 3.

Figure 19 shows another embodiment wherein two such elongated cases 3, with their docking ports 17 arranged in side-by-side order, are used, one arranged parallel to the other, set above the other, and attached to plaque 103. Figure 20 shows the embodiment of Figure 19 disassembled into two, parallel, spaced-apart elongated cases 3 and separate wall plaque 103. Cases 3 are joined to plaque 103, by a plurality of pegs 109 extending outwardly from the front of plaque 103, for receipt in holes (not shown) formed in the rear of cases 3. Also in the embodiment shown in Figures 19 and 20, rectangular depression 107 is shown formed adjacent to, and preferably above, each docking port 17 for the purpose of accepting a label (not shown) or other indicia of the purpose of the key hung thereon.

Figure 21 illustrates a individual docking port 17 in an embodiment of the present invention. The individual docking port 17 allows for a car key and /or a group of keys 61 to be separated when desired. The key may be separated, for example, when a user gives keys to a valet to park, and/or when a user gives keys to a mechanic to fix. Alternatively, the keys may be separated of gain entry to a locked facility of the like. Figure 21 illustrates a tag 47 disassociated with the docking port 17. The docking port 17 may have a small aperture 53 which may accommodate a metal ring 55. The metal ring 55 may house a key or a group of keys 61.

Figure 22 illustrates an individual docking in a converged position. The docking port 17 may accommodate a tag 47 which contains a small aperture 53. The aperture 53 may contain a metal ring 55 to hang a key from. The docking port 17 may also have a small aperture 53 which may itself have a small aperture 53 and a metal ring 55 to hang a key or group of keys 61. A docking button may be provided, adapted for lockable engagement in docking port 17 to attach the tag 47 to the docking port 17. The docking button 77 is preferably circular in outline wherein the circular configuration allows for rotation in port 17 without losing the inter-connection between the tag 47 and the docking port 17 as illustrated in Figure 23.

Figure 24 illustrates a multiple key holder having individual ports in an embodiment of the present invention. The holder has a case 3 having a plurality of docking slots 17 to receive a tag 47. The tag 47 may have a small aperture 53 to receive a metal ring 55 that may support a group of keys 61. Figure 24 also illustrates a tag 47 that may slide away from the case 3 to allow for display of a label 111. The label 111 may identify the function of the key or group of keys 61, and/or allow for easy identification of the needed keys 61.

While the invention has been described with reference to a particular embodiment thereof, those skilled in the art will be able to make various modifications to the described embodiment of the invention without departing from the true spirit and scope thereof. It is intended that all combinations of elements and steps which perform substantially the

same function in substantially the same way to achieve substantially the same result are within the scope of this invention.